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Effect of Apium Graveolens Leaf Extract on Serum Level of Thyroid Hormones in Male Rat

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ABSTRACT

BACKGROUND AND OBJECTIVE: Celery (Apium graveolens) is a medicinal plant with antioxidant benefits and rich of flavonoid. Since flavonoids have great impact on physiological functions of body and especially thyroid function, the aim of this study was to investigate the effect of hydro- alcoholic extract of celery leaf on serum level of thyroid hormones.

METHODS: In this experimental study, 40 male rats were divided into 5 groups of eight rats each. They were control, sham (received normal saline) and the experimental groups received 1 ml of hydro- alcoholic extract of celery with doses of 50,100 and 200 mg/kg during 21 days by using gavage method. One day after the last gavage, the blood samples were collected by bloodletting from the heart. After preparing serum, the level of T_3، T_4 and TSH hormones were measured using ELISA method.

FINDINGS: The serum levels of T_3 (0.95±0.04 and 0.95±0.06, respectively) and T4 (5.42±0.85 and 5.87±0.89, respectively) hormones decreased ($p<0.05$) in the rats received celery leaf extract with doses of 50 and 100 mg/kg serum and TSH (1.93±0.06 and 1.96±0.08, respectively) had significant increase ($p<0.001$) in comparison with control group (1.63±0.33, 8.96±0.43, and 1.11±0.10, respectively). In rats received celery leaf extract with dose of 200 mg/kg, the serum level of T_4 (5.90±0.45) hormone increased significantly in comparison with the sham group ($p<0.01$), but that of TSH and T_3 hormones had no significant changes compared to control group ($p>0.05$).

CONCLUSION: The results showed that prescribing these doses of celery extracts caused the decrease of thyroid hormone level so it could be considered as a balance hyperthyroidism.

KEY WORDS: *Apium graveolens*, *Triiodothyronine, Thyroxin, Thyroid-stimulating hormone, Rat*.

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